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REPRINT FROM VOLUME XI
Gynecological Transactions.
1886.



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C. M. Green.

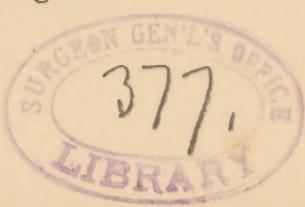
THE ETIOLOGY AND TREATMENT OF OCCI- PITO-POSTERIOR POSITIONS.

BY CHARLES M. GREEN, M. D.,

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THIS subject is one of great interest, not only because of the beauty of mechanism by which the occiput is normally rotated to the pubic arch, but also because of the fact that any disturbance of this mechanism, whereby anterior rotation fails to take place, results in a condition often perilous to both mother and child, requiring intelligent obstetric assistance for their safe delivery.

The relative frequency of the four positions of the head in vertex presentations is variously given by different authors. There is substantial agreement, however, that the back of the fetus is directed to the left in 70 per cent of all head presentations, and that the occipito-left-posterior position is of extreme rarity. The relative frequency of the two varieties of the right position, therefore, is the chief point at issue. Galabin, in his *Manual of Midwifery*, recently published, says (page 163) that "the general opinion of modern authorities is rather that primary second positions are about as common as third, so that the frequency of each may be taken as about 15 per cent." This statement is at variance with my experience, and is not sustained by the authorities in whose opinion I have most confidence. It is obvious that, in order to obtain reliable statistics on this subject, a large number of cases must be collated which have been examined early in labor, before anterior rotation can have taken place. This has been done by Professor Richardson, who gave his



results in a paper¹ communicated to the Massachusetts Medical Society in June, 1885. Of nearly 1,000 cases of vertex presentation examined by him, early in labor, he found that the head entered the pelvis in the right oblique diameter in 98 per cent: this is in striking accord with the well-known experience of Naegele, who found that the head entered by the right oblique diameter in 99 per cent.

My own cases in private practice have not been sufficient in number to be of statistical importance: still, the records show that the head passed the superior strait by the right oblique diameter in 92 per cent of all head cases, and that the O. R. P. position was more than twice as frequent as the O. R. A. Consultation practice can not fairly be used for statistical purposes; and in my public practice in the out-patient service of the Boston Lying-in Hospital, and in the obstetrical department of the Boston Dispensary, I am called, for the most part, only to abnormal cases; and, although I frequently then have to deal with occipito-posterior positions, the statistics furnished of all the cases by their numerous observers are not sufficiently reliable to be of value in determining the relative frequency of the various positions. Until, however, a larger experience shall have taught me the contrary, I am quite prepared to accept the dictum of Naegele.

That the right oblique diameter is larger than the left, and is on that account the preferable diameter, is undoubtedly due to the encroachment on the latter of the rectum. It may be objected that the thin-walled rectum can make no appreciable difference in the two diameters; but, when it is remembered that constipation is the rule with women, and especially so in the pregnant state, the criticism is no longer tenable. There are other reasons, however, which favor entrance of the head by the right oblique diameter in such a large proportion of cases, and these are to be found in the customary position of the uterus. It is well known that the

¹ *Medical Communications of the Massachusetts Medical Society*, vol. xiii, No. iv, 1885.

gravid uterus is usually rotated, in a measure, on its long axis toward the right, whereby the left round ligament is more easily felt than the right, and the left uterine wall is therefore directed somewhat anteriorly, and the right wall in a like degree posteriorly. The apparent object of this lateral uterine rotation is to enable the fetus to most naturally adapt itself to the uterus in a position by which it can enter the pelvis by the larger oblique diameter.

With the natural distention of the abdominal wall in advancing pregnancy, and the consequent anteversion of the uterus, it is obvious that the back of the child, of relatively greater specific gravity on account of the spinal column, naturally seeks the most dependent part of the uterus, namely, the left antero-lateral wall: the anterior convexity of the maternal spine also favors this position. Hence the relative frequency of occipito-left-anterior positions. But this lateral uterine torsion, which favors the assumption of the O. L. A. position, tends also to direct the back of the fetus to the opposite side of the uterus, namely, to the right and backward, in which position the fetus occupies an equally natural relation to the uterine walls as when disposed with the occiput left anterior: and the right posterior position is also favored by the customary right lateral obliquity of the uterus, by virtue of which gravity aids in maintaining the fetal position at the right of the maternal spinal column.

But, granting that the head is to enter by the right oblique diameter, there still remains to be found an adequate explanation of the relatively frequent occurrence of the right posterior position. Why does not the head always engage with the occiput left anterior? This explanation is to be found in the condition of the mother's anterior abdominal wall. If the wall is relaxed and easily distensible, gravity and the right lateral torsion of the uterus will produce an occipito-left-anterior position, in the manner indicated above. If, on the contrary, the wall is tense and unyielding, the fetus will most easily dispose itself, with regard to the greatest economy of space, with its back to the right and posterior,

this arrangement being favored by the torsion and right lateral obliquity of the uterus, and also by gravity when the mother is lying down. In his paper, read before this Society at its annual meeting in 1884, Dr. Sawyer stated that about two thirds of his O. R. P. cases occurred in primiparæ : the records show that the same is true in my own cases. It should be remembered, also, that all multiparæ do not have lax abdominal walls. In these days of longer rest in bed after delivery, and among the more favorably circumstanced women, the abdominal wall often involutes to such a degree that in subsequent pregnancies it will be sufficiently resistant to cause the head to enter the pelvis in the last weeks of pregnancy, as is usually the case in primiparæ. It has seemed to me that the use of the firm abdominal support in the latter half of pregnancy, by limiting abdominal relaxation and uterine anteversion, may also be to some extent responsible for occipito-posterior positions.

The intelligent treatment of occipito-posterior positions presupposes an accurate knowledge of the mechanism of labor ; and as the only difference in mechanism between anterior and posterior positions consists in the greater degree of rotation which the posterior occiput describes, the conditions of anterior rotation should receive careful attention. Professor Lusk states these conditions to be :

1. Flexion.
2. Good labor-pains.
3. A firm perineum.

In other words, unless there is some disproportion between the pelvis and the fetal head, good uterine contractions will drive the well-flexed head to the pelvic floor, when, in obedience to a well-known law in obstetrics, the occiput, being first to encounter the resistant soft parts, will be rotated forward in the direction of least resistance, toward the vaginal introitus. My own experience with this class of cases is in striking contrast with that of Dr. Sawyer, as described in his paper before alluded to. Although the absence of some of the conditions essential to rotation has often made it

necessary to resort to operative interference, anterior rotation has never failed in any of my cases, with one exception, and that was in a case of relative disproportion, the child weighing eleven pounds. It is obvious that the force of the uterine contractions must be greater when the occiput is posterior than when it is anterior, if forward rotation is to occur, on account of the greater amount of friction to be overcome. Frequently the pains are not sufficiently strong, and the force of the uterus must be supplemented with that of the forceps. Again, the head may not be well flexed: the large fontanelle is found in easy reach, on a plane with, or even lower than, the small fontanelle; in this case the sinciput is the first to encounter the resistance of the pelvic floor, and is rotated to the pubic arch. Loss of flexion must, therefore, receive appropriate treatment.

The importance of firm soft parts is adequately illustrated by the experiment of Dubois,¹ who placed a fetus in O. R. P. position in the opened uterus of a recently-delivered woman dead of puerperal disease. On the application of suitable *vis a tergo*, the fetus descended, rotated, and passed the vulva as if originally in an O. R. A. position. This was twice repeated with a like result; but the fourth time the occiput remained posterior. A larger fetus was then used: twice successively rotation occurred, but failed in subsequent attempts, the soft parts having lost that degree of tension essential to change the direction of the uterine force and establish that resultant force which acts in the direction of the vulva. When, therefore, anterior rotation fails on account of relaxed soft parts, resort must be had to operative assistance.

If the fetal head is very large, there is sometimes a difficulty in its proper engagement in the right posterior position, which does not exist with the occiput left anterior. In the latter position the biparietal diameter can readily pass through the left oblique diameter of the pelvis; but in the right posterior position the biparietal diameter may not be

¹ Lusk's *Midwifery*, p. 181.

able to pass the smaller chord which subtends the right sacroiliac arch. In the event of this, albeit slight, obstruction, good flexion will not take place, and the unfavorable occipito-frontal diameter will engage in the right oblique diameter of the superior strait. If at the same time the uterus happens to be in a position of marked right lateral obliquity, the fetal spine will be so deflected to the right that the force of the uterine contractions will no longer be conducted to the shorter, occipital end of the cephalic lever, but more to the sinciput: in this way the extension of the head will be increased, perhaps even to the extent of producing a face presentation. In the face of this double difficulty it is well to try the effect of correcting the obliquity of the uterus, and thus placing the fetal spine in its normal relation with the occiput: the head can then be flexed with the hand, and possibly the occiput may descend. This procedure failing, however, there remain two ways of dealing with this complication. The rectum having been emptied by copious enemata, effort may be made to rotate the head into the left oblique diameter: this may sometimes be done by seizing the head with the whole hand introduced into the vagina and aiding rotation with external manipulation. If this method does not succeed, it is better to do podalic version than to attempt instrumental interference at the superior strait.

When the head has entered the pelvic cavity, the case requires no especial care so long as the three conditions of anterior rotation are satisfied: rotation is sure to take place, and the labor will progress normally. But even a slight loss of flexion should be promptly recognized, and remedied by exerting counter-resistance during a pain with two fingers against the sinciput. Sometimes, however, late in the labor, when the head has been extended for a long time, digital counter-resistance will not succeed in restoring flexion. The use of the vectis over the occiput is recommended in such cases, combined with upward pressure on the forehead. Application of the forceps in the usual way and subsequent elevation of the handles is also advised.

But the most effectual way of flexing the extended head is by the use of forceps with the pelvic curve reversed, as described by Professor Richardson in his paper on this subject before alluded to. Applied in this manner the blades pass over the fetal ears, and the tips grasp the base of the occipital bone. When traction is then made, the force is chiefly exerted where it is most needed—that is, on the occiput, and this part descends, becomes the more dependent arm of the cephalic lever, and flexion is accomplished. The forceps are then removed, and if the pains are adequate, and the soft parts firm, anterior rotation is sure to take place. But in the absence of effectual pains, or if the soft parts do not offer sufficient resistance to direct the occiput to the pubic arch; or, again, if the condition of mother or child is such that further interference is necessary, the use of forceps is again indicated. Applied in the usual way, however, the tips of the blades being directed toward the forehead, the forceps will sometimes reproduce extension, and no progress is made. Under these circumstances I have several times re-applied the forceps reversed, and, after again flexing the head, have made traction and at the same time favored the natural rotation, with the result of extracting the head, occiput anterior, without injury to mother or child. This intra-vaginal rotation of curved forceps is attended with no small risk to the mother's soft parts, and is not, except under certain contingencies, a justifiable operation; but, were there no safer way, this method would commend itself to my judgment as preferable to delivering the head with the occiput posterior, with the almost inevitable result of a serious perineal tear.

It is in this class of cases, when anterior rotation fails on account of inadequate pains or lax soft parts, that the old-fashioned, straight forceps finds its most appropriate use. The head being low, this forceps is of sufficient length, and the absence of the pelvic curve makes it easy to rotate the instrument within the vagina without danger to the maternal soft parts. The blades are applied over the parietal protuberances and behind the ears. Traction is made in the

usual way; and rotation can be safely assisted, if care is taken to avoid all hasty and violent efforts. It is well to have an assistant aid the rotation of the fetal trunk by appropriate external manipulation, although there is slight danger of undue torsion of the fetal neck, if rotation is exerted only during traction, and without haste or undue force. In the discussion of Dr. Sawyer's paper the belief was expressed that the successful treatment of occipito-posterior positions depends less on the form of forceps than on the skill of the individual who uses it, and to this opinion no exception can be taken. But while no extravagant claim should be made for the merit of straight forceps in these cases, this use of the instrument deserves considerate attention.

